What is claimed is:

1. A method for the treatment or prevention of thrombocythemia in a patient comprising administering to said patient an effective amount of anagrelide, anagrelide in base form, or a pharmaceutically acceptable salt of anagrelide in a manner whereby first pass liver metabolism is avoided.

2. A method according to claim 1, wherein anagrelide, anagrelide in base form, or a pharmaceutically acceptable salt of anagrelide is administered by means chosen from implants, sublingual, pregastric absorption, pessary, suppository, transdermal means nasal spray, inhaled absorption or topical means.

3. A method according to claim 1, wherein anagrelide, anagrelide in base form, or a pharmaceutically acceptable salt of anagrelide is administered by contacting an area of skin with a skin permeable form of anagrelide, anagrelide in base form, or a pharmaceutically acceptable salt of anagrelide.

4. A method according to claim 1, wherein anagrelide, anagrelide in base form, or a pharmaceutically acceptable salt of anagrelide is administered to said patient transdermally or subdermally.

5. A method according to claim 4, wherein anagrelide, anagrelide in base form, or a pharmaceutically acceptable salt of anagrelide is administered transdermally.

6. A method according to claim 5, wherein anagrelide, anagrelide in base form, or a pharmaceutically acceptable salt of anagrelide is in the form of reservoir formulation.

7. A method according to claim 5, wherein anagrelide, anagrelide in base form, or a pharmaceutically acceptable salt of anagrelide is in the form of a single layer formulation comprising anagrelide, anagrelide in base form, or a pharmaceutically acceptable salt of anagrelide and at least one adhesive.

8. A method according to claim 5, wherein anagrelide, anagrelide in base form, or a pharmaceutically acceptable salt of anagrelide is in the form of a multiple layer formulation wherein at least one layer of said multiple layer formulation comprises anagrelide, anagrelide in base form, or a pharmaceutically acceptable salt of anagrelide and at least one adhesive.

9. A method according to claim 5, wherein anagrelide, anagrelide in base form, or a pharmaceutically acceptable salt of anagrelide is in the form of a matrix formulation.

10. A method according to claim 4, wherein anagrelide, anagrelide in base form, or a pharmaceutically acceptable salt of anagrelide administered subdermally.

11. A method according to claim 10, wherein anagrelide, anagrelide in base form, or a pharmaceutically acceptable salt of anagrelide is administered in the form of a matrix implant formulation.

12. A method according to claim 1, wherein said thrombocythemia is associated with essential thrombocythemia (ET), chronic myologenous leukemia (CML), polycythemia vera (PV), agnogenic myeloid metaplasia (AMM) or sickle cell anemia(SCA).

13. A method according to claim 1, wherein anagrelide, anagrelide in base form, or a pharmaceutically acceptable salt of anagrelide is administered in an amount of 0.1 to 20 mg/kg/day.

14. A method according to claim 1, wherein anagrelide, anagrelide in base form, or a pharmaceutically acceptable salt of anagrelide is administered in a daily dose 0.5 to 3 mg.

15. A method according to claim 1, wherein anagrelide, anagrelide in base form, or a pharmaceutically acceptable salt of anagrelide is administered in a daily dose 1 to 2 mg.

16. A method according to claim 2, wherein anagrelide, anagrelide in base form, or a pharmaceutically acceptable salt of anagrelide is administered topically to the epidermis in the form of an ointment, cream or lotion.

17. A method according to claim 5, wherein anagrelide, anagrelide in base form, or a pharmaceutically acceptable salt of anagrelide is in the form of a composition which further comprises at least one skin permeation enhancer.

18. A method according to claim 17, wherein said at least one penetration enhancer is linalool, carvacrol, thymol, citral, menthol or t-anethole.

19. A method according to claim 5, wherein administration is via a transdermal patch having a single-layer drug-in-adhesive system comprising a composition containing anagrelide, anagrelide in base form, or a pharmaceutically acceptable salt of anagrelide, any optional excipients, and at least one skin-contacting adhesive, which is combined with a single backing film.

20. A method according to claim 5, wherein administration is via a transdermal patch having a multi-layer drug-in-adhesive system wherein: (a) said system comprises at least two distinct layers comprising at anagrelide,

anagrelide in base form, or a pharmaceutically acceptable salt of anagrelide and at least one adhesive, and a membrane between said at least two layers or (b) said system comprises at least two distinct layers comprising at anagrelide, anagrelide in base form, or a pharmaceutically acceptable salt of anagrelide and at least one adhesive, and a single backing film.

21. A method according to claim 5, wherein administration is via a transdermal patch having a reservoir transdermal system comprising a liquid compartment containing a solution or suspension of anagrelide, anagrelide in base form, or a pharmaceutically acceptable salt of anagrelide, a release liner, and between said release liner and said liquid compartment, a semi-permeable membrane and at least one dhesive.

22. A method according to claim 5, wherein administration is via a transdermal patch having a matrix system comprising a semisolid matrix containing a solution or suspension of anagrelide, anagrelide in base form, or a pharmaceutically acceptable salt of anagrelide which is in direct contact with a release liner, and a skin adhesion component incorporated in an overlay which forms a concentric configuration around said semisolid matrix.

23. A method according to claim 5, wherein administration is via a transdermal patch containing anagrelide, anagrelide in base form, or a pharmaceutically acceptable salt of anagrelide intimately distributed in a matrix.

24. A method according to claim 5, wherein administration is via a transdermal patch containing 1 mg to 100 mg of anagrelide, anagrelide in base form, or a pharmaceutically acceptable salt of anagrelide per patch.

25. A method according to claim 5, wherein administration is via a transdermal patch containing an amount of anagrelide, anagrelide in base form,

or a pharmaceutically acceptable salt of anagrelide sufficient to provide a daily dose of 0.5 to 3 mg.

26. A method according to claim 5, wherein administration is via a transdermal patch containing a composition comprising anagrelide, anagrelide in base form, or a pharmaceutically acceptable salt of anagrelide and an acrylic adhesive.

27. A method according to claim 26, wherein said composition contains 66 to 99.8% by weight acrylate adhesive.

28. A method according to claim 5, wherein administration is via a transdermal patch containing an amount of anagrelide, anagrelide in base form, or a pharmaceutically acceptable salt of anagrelide, azone, ethanol, water, optionally propylene glycol and Klucel HF.

29. A method according to claim 28, wherein administration is via a transdermal patch containing an amount of anagrelide, anagrelide in base form, or a pharmaceutically acceptable salt of anagrelide, 0.1 to 10 parts by weight azone, from 30 to 69.8 parts ethanol, 29 to 50 parts by weight water, from 0 to 30 parts by weight propylene glycol, and 1 to 5 parts by weight Klucel HF.

30. A method according to claim 5, wherein administration is via a transdermal patch containing anagrelide, anagrelide in base form, or a pharmaceutically acceptable salt of anagrelide, ethanol, and Klucel HF.

31. A method according to claim 30, wherein administration is via a transdermal patch containing an amount of anagrelide, anagrelide in base form, or a pharmaceutically acceptable salt of anagrelide, 85 to 97 parts by weight ethanol and 2 to 14.9 parts Klucel HF.

32. A method according to claim 5, wherein administration is via a transdermal patch containing having an area of $5cm^2$ to $100cm^2$.

33. A method according to claim 1, wherein anagrelide, anagrelide in base form, or a pharmaceutically acceptable salt of anagrelide is administered over a period of time of 1 to 7 days.

34. A method according to claim 1, wherein anagrelide, anagrelide in base form, or a pharmaceutically acceptable salt of anagrelide is administered over a period of time of 3 to 4 days.

35. A method according to claim 1, wherein anagrelide in base form is administered.

36. A method according to claim 3, wherein said method comprises:
(a) contacting said area of skin with a source of skin permeable form of anagrelide, anagrelide in base form, or a pharmaceutically acceptable salt of anagrelide; and
(b) maintaining said source in material transmitting relationship to said area of skin for a period of at least 12 hours.

37. A method of reducing the platelet count in a patient comprising administering to said patient an effective amount of anagrelide, anagrelide in base form, or a pharmaceutically acceptable salt of anagrelide in a manner whereby first pass liver metabolism is avoided.

38. A method for reducing the side effects associated with the oral administration of anagrelide comprising administering to a patient in need thereof anagrelide, anagrelide in base form, or a pharmaceutically acceptable salt of anagrelide in a manner whereby first pass liver metabolism is avoided.

39. A non-oral, pharmaceutical composition comprising anagrelide, anagrelide in base form, or a pharmaceutically acceptable salt of anagrelide and at least one skin permeation enhancer.

40. A composition according to claim 39, wherein said at least one penetration enhancer is linalool, carvacrol, thymol, citral, menthol or t-anethole.

41. A non-oral, pharmaceutical composition comprising anagrelide, anagrelide in base form, or a pharmaceutically acceptable salt of anagrelide and at least one adhesive.

42. A composition according to claim 41, wherein said at least one adhesive is an acrylic adhesive.

43. A medical device for the transdermal administration to a patient of anagrelide, anagrelide in base form, or a pharmaceutically acceptable salt of anagrelide, said device comprising:
(a) reservoir means containing a skin permeable form of anagrelide, anagrelide in base form, or a pharmaceutically acceptable salt of anagrelide;
(b) means for maintaining a said reservoir means in material transmitting relationship to a patient's skin.

44. A device according to claim 43, wherein said reservoir means further contains at least one skin permeation enhancer.

45. A device according to claim 43, wherein said device is applied to a 5-100 cm^2 area of skin.

46. A medical device for transdermal administration to a patient of anagrelide, anagrelide in base form, or a pharmaceutically acceptable salt of

anagrelide, comprising, in combination:

(a) a reservoir containing a skin permeable form of anagrelide, anagrelide in base form, or a pharmaceutically acceptable salt of anagrelide, and said reservoir having a skin proximal, material releasing surface area of 5-100 cm^2; and

(b) means for maintaining said reservoir in material transmitting relationship to the skin.

47. A device according to claim 46, wherein said means for maintaining said reservoir in material transmitting relationship to the skin is an amine resistant adhesive disposed in the flow path of the material from the reservoir to the skin.

48. A device according to claim 46, further comprising release rate controlling means disposed in the flow path of said anagrelide, anagrelide in base form, or a pharmaceutically acceptable salt of anagrelide which limits the flux of anagrelide, anagrelide in base form, or a pharmaceutically acceptable salt of anagrelide from said device.

49. A medical device for transdermal administration to a patient of anagrelide, anagrelide in base form, or a pharmaceutically acceptable salt of anagrelide, comprising:

a backing layer, a release liner, and at least one anagrelide composition layer positioned between said backing layer and said release liner, said at least one anagrelide composition layer comprising anagrelide, anagrelide in base form, or a pharmaceutically acceptable salt of anagrelide, and at least one adhesive.